

What is claimed is:

1. A dunnage system for supplying dunnage units to fill spaces in packages comprising:

- a) a dunnage supply for dispensing dunnage units;
- b) a hopper for receiving and collecting such dunnage units;
- c) the hopper having an outlet;
- d) at least one rotatable dispenser mounted at the outlet, the

dispenser defining a plurality of circumferentially spaced unit receiving spaces; and

e) a dispenser drive for selectively causing the dispenser to rotate and thereby dispense such dunnage units from the hopper.

2. The system of claim 1 wherein the supply is a machine which inflates plastic pouches with air and seals the inflated pouches.

3. The system of claim 2 wherein a deionizer for deionizing pouch inflating air is mounted along an air supply path.

4. The system of claim 1 wherein the hopper outlet is laterally offset from the dunnage supply.

5. The system of claim 4 wherein the hopper includes at least one compressed air supply is oriented to blow such dunnage units toward said outlet.

6. The system of claim 1 wherein the hopper includes at least one sensor for sensing the depth of a quantity of such units in the hopper and issuing supply control signals for causing the supply to dispense such units whereby to maintain a desired volume of such units in the hopper.

7. The system of claim 6 wherein there are two sensors which are vertically spaced when the system is in use.

5 8. The system of claim 1 wherein said at least one dispenser is a brush having a plurality of circumferentially spaced bristle sets defining said spaces.

9. The system of claim 8 wherein there are two counter rotating brushes.

10. The system of claim 1 wherein there are two counter rotating dispensers.

10 11. The system of claim 1 wherein the hopper includes at least one conductive element for removing static electricity from such units.

12. An accumulator for holding and dispensing dunnage units comprising:

- 15 a) side walls defining the perimeter of a unit retention space;  
b) a base wall connected to the side walls; the walls defining an outlet;  
c) at least one rotatable dispenser at the outlet; and  
d) a dispenser rotating mechanism operably connected to said at  
20 least one dispenser for selectively causing the dispenser to rotate and effect dispensing of such dunnage units.

13. The accumulator of claim 12 wherein the walls define an inlet and the bottom wall tapers downwardly toward the outlet between the outlet and a side  
25 wall spaced from the outlet.

14. The accumulator of claim 12 wherein and at least one compressed air source is connected to a wall spaced from the outlet and the source is adapted to emit a stream of air to blow such dunnage units toward the outlet.

15. The accumulator of claim 12 wherein there are two dispensers and the dispenser rotating mechanism is adapted to cause counter rotation of the dispensers.

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16. The accumulator of claim 15 wherein said dispensers are brushes having a plurality of circumferentially spaced bristle sets.

17. The accumulator of claim 12 wherein said at least one dispenser is a brush having a plurality of circumferentially spaced bristle brushes.

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18. A process of providing dunnage for filling space in packages comprising:

a) at least partially filling an accumulator chamber with individual dunnage units;

b) selectively dispensing some of the units through an accumulator outlet to supply units to a package being filled; and

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c) effecting the dispensing by rotating at least one dispenser positioned at the outlet, the dispenser having circumferentially spaced components defining unit receiving spaces between the components.

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19. The process of claim 18 wherein the dispensing is effected with a pair of counter rotating dispensers.

20. The process of claim 19 further including the step of forming dunnage units by inflating and sealing plastic pouches to effect the filling step.

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21. The process of claim 20 wherein the volume of each unit is controlled to in turn control the pressure of air within the units being formed, the volume control step being performed prior to the sealing step.

22. The process of claim 18 further including the step of forming dunnage units by inflating and sealing plastic pouches to effect the filling step.

5 23. The process of claim 22 wherein the volume of each unit is controlled to in turn control the pressure of air within the units being formed, the volume control step being performed prior to the sealing step.

24. A process of supplying dunnage units to a package being formed comprising:

- 10 a) placing a supply of dunnage units in an accumulator having a dispensing opening; and  
b) dispensing units through the opening by rotating a brush positioned at the opening.

15 25. The process of claim 24 wherein the dispensing step is accomplished by counter rotating two brushes at the outlet.

26. The process of claim 25 wherein the brush rotation step is accomplished by actuating a foot switch.

20 27. The process of claim 25 wherein the brush rotation step is accomplished by causing the brush rotation for a predetermined time interval.

25 28. The process of claim 24 wherein the brush rotation step is accomplished by actuating a foot switch.

29. The process of claim 24 wherein the brush rotation step is accomplished by causing the brush rotation for a predetermined time interval.

30. A process of filling space in a package being formed with dunnage units comprising:

5 a) positioning a package being formed to receive dunnage units from an accumulator after the units have passed through an accumulator discharge opening; and

b) actuating a timer to cause a brush at the discharge opening to rotate for a predetermined time interval to cause dunnage units to be discharged from the accumulator into the package being formed.

10 31. The process of claim 30 further including the step of actuating a foot switch after the timer caused rotation has stopped to cause further brush rotation and complete the filling of the space.

15 32. A system for providing dunnage to packages as the packages are formed comprising:

a) a dunnage forming machine having a work station for sealing plastic pouches to form dunnage units;

b) an accumulator positioned below the station for receiving and collecting such units as they are formed;

20 c) the accumulator including an outlet opening laterally offset from the station;

d) a pair of counter rotating brushes having axes journaled in spaced relationship at the outlet, each of the brushes including circumferentially spaced bristle sets defining unit receiving spaces between adjacent sets;

25 e) a motor drive operably connected to the brushes for causing such counter rotation;

f) an operator controlled switch for selectively engaging the motor drive; and

g) the accumulator including:

i) a bottom tapering downwardly from a location below the dispensing station toward the outlet;

ii) a mechanism for engaging such units from the location toward the outlet; and

5                   iii) a unit volume sensor for emitting a machine start signal when the volume of units in the accumulator reaches a predetermined low volume, the signals being effective to cause the machine to produce dunnage units.

10           33. The system of claim 32 further including a second sensor for emitting machine stop signals when the volume of units in the accumulator reaches a predetermined high volume.

15           34. The system of claim 33 further including a deionizer mounted along an air supply path for minimizing formation of static electricity.

35. The system of claim 32 further including a deionizer mounted along an air supply path for minimizing formation of static electricity.